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1972

Calvin L. Carpenter

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
INT Moscow

REPLY TO: 1380 Reports

November 13, 1973

SUBJECT: 1972 Annual Report, Priest River Experimental Forest

TO: Interested Parties

The attached annual report is for your information and filing. The intent is to record the significant events and actions on the Priest River Experimental Forest during 1972 for future reference. Please notify me of any errors or omissions you find in the report.

Marvin W. Foiles

MARVIN W. FOILES
Silviculturist

Enclosure

cc:
Ogden
Klawitter
NFFL
Panhandle Nati nal Forests S.O.
Priest Lake R.D.
RWU 1206
RWU 1601
RWU 2303
RWU 1451
RWU 2204
PREF

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UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

1972 ANNUAL REPORT

Priest River Experimental Forest

by

Calvin L. Carpenter

Intermountain Forest and Range Experiment Station

Ogden, Utah

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PRIEST RIVER EXPERIMENTAL FOREST

By

Calvin L. Carpenter

Distribution:

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Klawitter
Foiles
NFFL
Panhandle National Forests S.O.
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INTRODUCTION

1972 marked the sixty first consecutive year of operation dedicated to Forest Research. Highlights included educational programs with instruction and field demonstrations in conservation, sponsored by the U.S. Forest Service, and the Idaho Department of Public Lands. The Kaniksu National Forest conducted an Environmental Education Workshop. The afore mentioned, and various other activities are summarized in the following report.

RESEARCH ACTIVITIES

Timber Management Research

Maintenance work accomplished in the Weidman Arboretum consisted of the following:

1. Thinning of the European Larch plot, with 100% slash disposal.

2. Pruning and dead-tree removal, with 100% slash disposal in Ponderosa and Jeffrey pine plots.

3. Replacement of corner posts and identification tags, on all plots along main county road right-of-way.

4. Dead-tree removal in the Red Pine, Austrian Pine, Scotch Pine, Jack Pine, and Lodge-Pole Pine plots. Burning of slash was not completed due to adverse weather conditions. Refer Info. Map.

Permanent sample plot maintenance and measurement consisted of the following:

Maintenance	Maintenance & Meas.
#101 thru #114	#148
#117 and #118	
#122 and #123	
#148 and #150	
#154 and #155	
#157 thru #161	

Work accomplishments were performed by Eric Elderburg, Cal Carpenter, and three Indian youth employees, sponsored by the Office of Navajo Economic Opportunity

1. The Genetics' (RWU) #1451, consisting of R. Bingham, R. Hoff, R. Steinhoff, G. Rehfeldt, G. McDonald, D. Andrews, S. Wells and D. Coffin completed expansion work at the existing nursery site, to two acres. Establishment of two five-year studies involving (1) geographic variation in Douglas-fir, and (2) interracial hybrids of Douglas-fir. 15,000 Douglas-fir seedlings were transplanted for field production. Re. Info. Map.

2. Ray Hoff, RWU #1451, planted 1 seedling of Pinus koraiensis, 5 seedlings of Pinus armandii, 90 seedlings of Pinus wallichiana, and 48 seedlings of Pinus flexilis. Planting site of the above mentioned is located between B-road and K-3 road, in Area "A", Lower Benton Creek clear-cut, adjacent to the Steinhoff plots. Seedling age: 7 yr. Re. Info. Map.

3. 12,450 western white pine seedlings, age 1 year were planted in the nursery site, for inclusion under study 135, "Progress and speed of natural selection in blister rust infected western white pine stands." Re. Info. Map.

Forest Insect Research

Robert Denton treated eighteen western larch trees located in Sec. 26. (junction of South Ridge and Crows Nest roads) with malathion for eradication and control of the larch casebearer. This study will also reveal effects of repeated larch defoliations by the insect.

The European Larch plot located in the north east portion of the Arboretum, was marked, thinned, and all slash hand removed and piled, in preparation for further casebearer studies in the near future. This thinning was also recorded under Timber Management Research.

Watershed Management Research

Two cooperative studies were set up during the past season, by the Intermountain Forest and Range Experiment Station at Moscow.

The first study, "Synchronized Streamflow", with Gordon Snyder, University of Idaho as cooperator includes the following objectives:

A. To refine or develop mathematical models which express chemical processes occurring in undisturbed streams on selected watersheds in the Northern Rocky Mountains.

B. To evaluate the capability of these models to predict baseline data collected from regional watersheds differing in soil type and geology. Four water sampling sites in the Benton Creek drainage, were chosen for this study.

The second study, "Water Loss from Forest Soils" and "Testing of a Mathematical Transperation Model", in cooperation with Richard Kline, Washington State University, Pullman, Washington include the following objectives:

A. To determine the pattern of soil water loss from forested versus clear-cut openings on North and South aspects.

B. Monitor the water status of, and loss from vegetation on forested site.

Apply data to a mathematical transpiration model in an attempt to extend over broader range of environmental conditions. Soil moisture access tubes were installed at site locations in the Upper Benton Creek drainage. Re. Info. Map.

Range Management and Wildlife Habitat

Research project (FS-INT-1802) accomplishments on the Priest River Experimental Forest in 1972 consisted of making the first post-treatment re-reading of permanent forest succession and development plots. On August 15 and 16, 1972 five study areas (1802-13 Areas of thru 09) comprised of 12 permanent 50-meter transects were sampled. On these transects four different size plots were used to sample the total vegetative composition by species. A total of 300 plots were read.

This sampling is part of a long term study of the influence of logging and associated practices on the post timber harvest development of forest vegetation in general and particularly as it relates to wildlife habitat (primarily that of big game). L. Jack Lyon and Peter F. Stickney. Forestry Sciences Laboratory, Missoula, Montana.

Forest Influences

Control Weather Station

Daily recordings, monthly averages and yearly totals as shown in Table #1, are closely comparable to the "normal" figures of the past 60 years that continued and unbroken records have been maintained at this station. Monthly, and weekly reports are released regularly to the local news media. Information is also furnished to other government agencies, state agencies, public schools, private industry, and private individuals.

Cumulative precipitation for the 1971-1972 water year is graphed in figure #1, together with the comparative trends for the wettest year, driest year, and the 50 year mean.

Table #2, notes other long-term records of precipitation, which have been maintained within the Benton Creek Watershed.

Fire Weather Station

Observations in compliance with the National Fire Danger Rating System were made daily from May 1st through October 31st. Records were maintained at the P.R.E.F. Headquarters station. Data covering the fire danger periods as determined by the chief fire control officer, at National Forest level, were reported daily by phone, or radio to the Falls Ranger Station. Regular ten-day reports are mailed to the fire dispatcher at the Supervisor's office in Sandpoint, Idaho.

Table 1. CONTROL STN. MONTHLY PRECIPITATION AND TEMPERATURE - 1972
FIGURES IN PARENTHESES ARE 50-YEAR (1912-1961) AVERAGES.

	PRECIPITATION		TEMPERATURE Ave. Max.		Ave. Min.	
	Inches		- - - - - -Degrees F- - - - - -			
January	4.23	(4.02)	27.7	(30.3)	15.1	(16.6)
February	3.59	(3.09)	36.1	(36.4)	22.8	(18.3)
March	2.60	(2.65)	45.8	(45.3)	27.6	(23.5)
April	2.43	(2.04)	51.0	(57.6)	28.1	(29.6)
May	1.90	(2.18)	69.1	(66.7)	41.3	(36.6)
June	3.23	(2.27)	73.0	(73.5)	47.3	(42.5)
July	1.34	(0.89)	79.0	(83.1)	46.0	(45.5)
August	1.42	(0.97)	85.2	(82.0)	49.5	(43.4)
September	1.83	(1.67)	65.2	(70.4)	38.7	(37.4)
October	0.78	(2.96)	57.6	(56.6)	31.4	(32.1)
November	2.57	(3.76)	39.0	(39.6)	29.6	(26.7)
December	5.24	(4.37)	28.0	(32.5)	18.7	(21.1)
ANNUAL	31.16	(30.87)	54.7	(56.1)	33.0	(31.0)

Fig. 1--CUMULATIVE PRECIPITATION FOR WATER YEAR, OCTOBER THROUGH SEPTEMBER
PRIEST RIVER EXPERIMENTAL FOREST, CONTROL WEATHER STATION

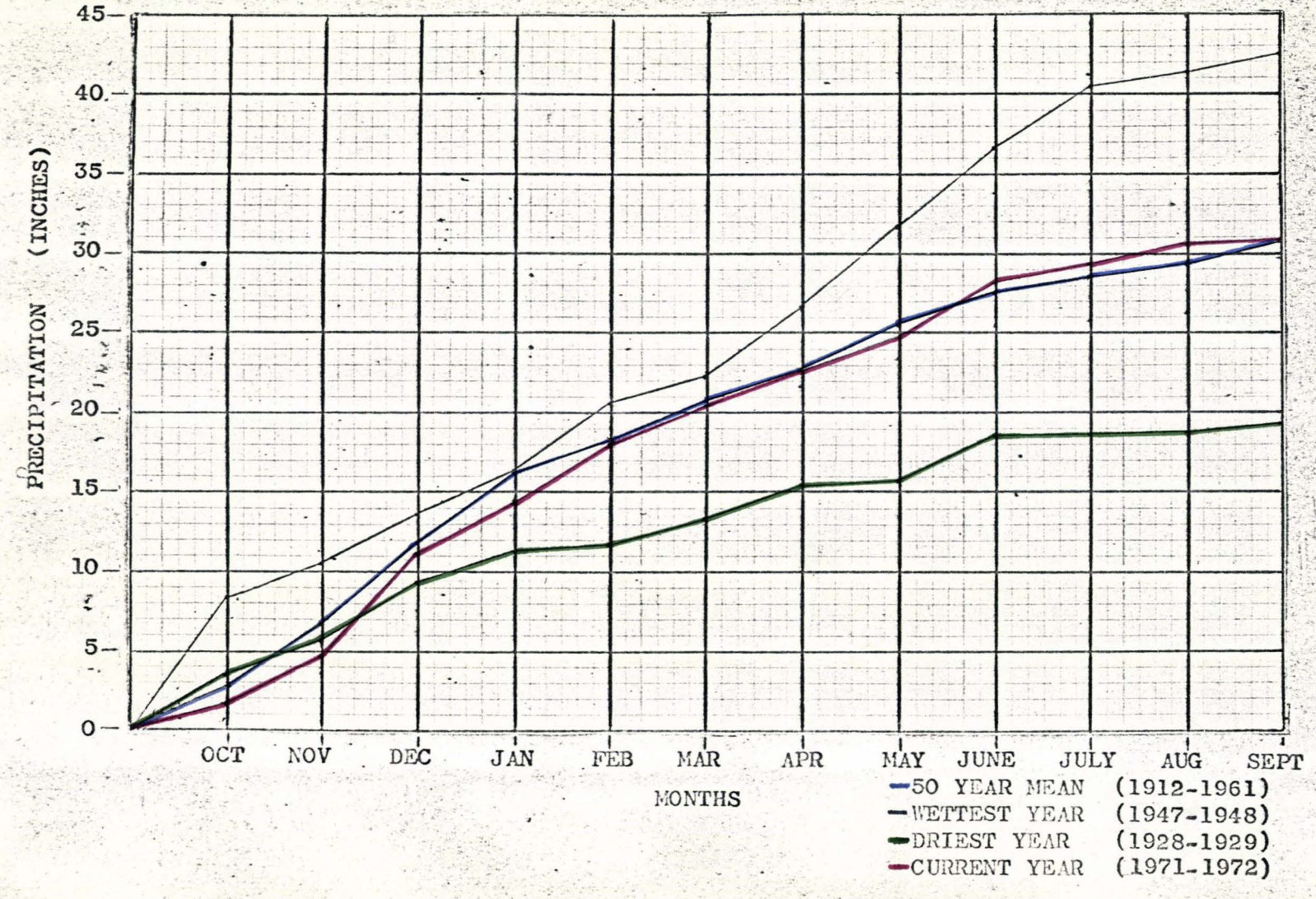


Table 2. PRECIPITATION AT 3 STATIONS ON BENTON CREEK
FIGURES IN PARENTHESES ARE 13-YEAR (1960-1972) AVERAGES

Month	CONTROL STN. ELEV. 2344		BENTON DAM ELEV. 2640		BENTON SPRING ELEV. 4700	
	- - - - - - - - - - - -		-INCHES-		- - - - - - - - - - - -	
January	4.23	(4.56)	3.83	(5.20)	4.70	(4.43)
February	3.59	(2.79)	3.50	(2.92)	3.20	(3.51)
March	2.60	(2.94)	2.61	(3.15)	3.90	(3.52)
April	2.43	(2.07)	2.40	(2.23)	3.00	(2.82)
May	1.90	(2.38)	2.02	(2.46)	3.10	(3.20)
June	3.23	(2.23)	3.23	(2.37)	4.10	(2.95)
July	1.34	(0.81)	1.56	(0.86)	1.70	(1.07)
August	1.42	(1.32)	1.32	(1.49)	1.90	(1.68)
September	1.83	(1.64)	1.78	(1.59)	3.80	(1.81)
October	0.78	(2.49)	0.79	(2.38)	1.10	(2.70)
November	2.57	(4.42)	2.31	(4.50)	3.00	(4.52)
December	5.24	(4.74)	5.49	(5.25)	4.90	(5.58)
TOTAL	31.16	(32.39)	30.84	(34.40)	38.40	(37.79)

Snow Survey

Table #3 reveals results of computations of snow measurements made starting January 1, 1972 and continuing until the end of the snow melt at higher elevations. The two snow courses consisting of Benton Springs, and Benton Meadow are conducted in cooperation with the Soil Conservation Service, where monthly reports are submitted the first of each month.

Table 3. SNOW DEPTH AND WATER CONTENT FOR BENTON MEADOW AND BENTON SPRING SNOW COURSES, 1972. FIGURES IN PARENTHESES ARE 25 YR. AVE. - (1937-1961)

Month	Benton Meadow (Elev. 2344)				Benton Spring (Elev. 4775)			
	Snow Depth		Water Content		Snow Depth		Water Content	
	Inches							
January -1-	17.8	(12.0)	3.8	(2.7)	42.0	(30.9)	11.1	(8.4)
February -1-	19.3	(19.4)	5.0	(4.8)	55.2	(46.8)	18.0	(13.7)
March -1-	13.4	(19.3)	4.3	(6.0)	59.2	(55.3)	22.1	(18.4)
April -1-	00.0	(6.2)	0.0	(2.3)	41.2	(22.1)	18.6	(20.4)
May -1-	00.0	(0.0)	0.0	(0.0)	39.6	(34.0)	18.7	(14.8)

ADMINISTRATIVE ACTIVITIES

Fire Protection

The contents of the existing fire plan, and the applicable portion of the District, in conjunction with the Experimental Forest responsibilities was reviewed, at the regular annual meeting of Forest, District and INT, Forestry Sciences Laboratory personnel. The existing plan was approved.

Forest Roads

The annual road maintenance consisted of grading A, B, C, and D to junction of Q-1, Q1, and G road to junction of E road. Twenty eight miles were scheduled and completed by private contract at a total cost of twenty five hundred dollars.

Brush removal included right-of-ways from the streamgaging dam on main Benton Creek to watershed #5, A-2 road from transect to B-road, L-4 road, and portions of B-road and L-5 road extending through the Upper Benton clear-cut. Re. Info. Map.

Timber Sales

North Ridge (Georgia Pacific Corporation 6/8/70). All timber removal was completed except obstruction (hazard) material along the scheduled reconstruction portion of C-road. Trees in this area were felled and the logs have been decked, with hauling to take place as soon as weather and road conditions permit in early spring, 1973. Other work to be accomplished before finalization of the sale includes; stump removal on C-road, maintenance of sale access roads, clean-up of new construction roads, construction of fire line around Cutting Unit #1, and the felling of dead snags and unmerchantable culls in Cutting Unit #2.

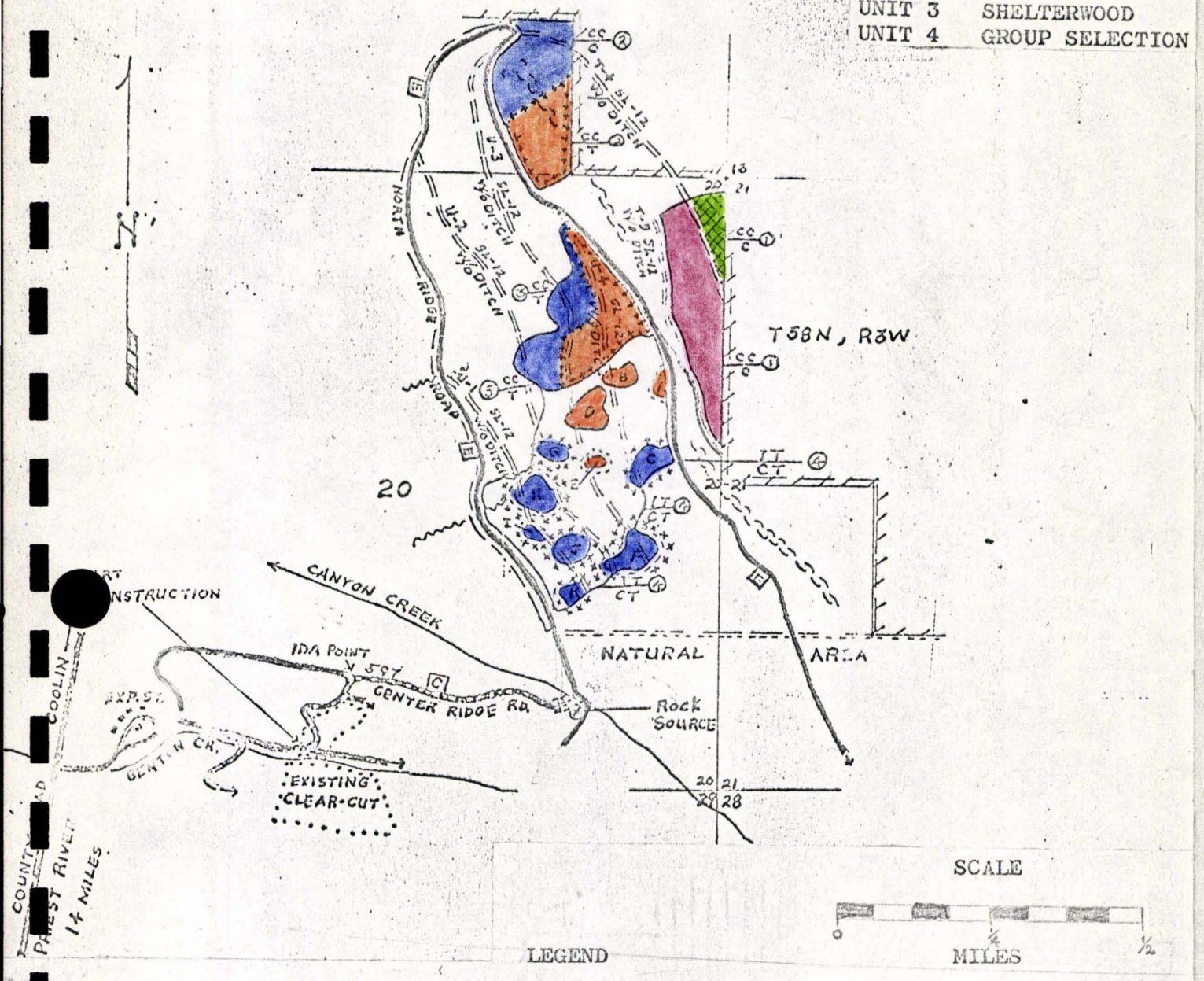
Final total volume as determined 12/31/72, and including obstruction hazard material, totaled 1716.27 m.b.f.

Refer to North Ridge Timber sale map (figure 2) for further information on treatment specifications.

P.R.E.F. Nursery Sale (Kenneth Dawson 8/14/73, 13-1534). This sale was conducted for the purpose of "day lighting" the existing nursery site. Contract was completed and the sale finalized early fall 1972. Burning of dozer piled slash will take place during the fall burning season 1973. Total volume 45.10 m.b.f. Refer. Info. Map.

P.R.E.F. Salvage. A "green slip sale" was awarded to Al Simms, local salvage operator, for the purpose of cleaning up dead wood pockets, and areas where blow down was concentrated. The operation figured in the salvage of approximately 40,000 board feet. Refer to Info. Map.

Figure 2. NORTH RIDGE TIMBER SALE



Headquarters Improvements & Maintenance

The grounds maintenance work consisted of the annual spring clean-up, landscaping, lawn mowing, dust control, weed control, removal of blister rust infections, and dead wood, within the headquarters area.

The water system required installation of a new underground wire for the automatic control. The sewage disposal system, including the new installation, (described in 1971 Report) operated throughout the year with no major problems.

Buildings

(A) General minor maintenance of common occurrence were performed in the Administration building and the Bunkhouse-Messhall.

(B) Cottage #1 Lodge - Interior decorating of the dining room, living room, main entrance, and master bedroom.

(C) Cottage #2 - Shower room required cleaning and existing paint removal. Redecorated with epoxy paint.

(D) Cottage #3 - Shower room redecorated with epoxy paint.

(E) Cottage #4 - Living room, hallway and master bedroom were refinished.

(F) The remaining buildings consisting of the shop, woodshed, two car garage, fuel storage and storage shelters were inspected regularly and found to be in satisfactory condition.

(G) Additional steel posts were placed in the fence line along the main country road, and the Experimental Forest frontage. Heavy snow pack, and deer crossings contribute to constant needed maintenance along the right-of-way. All existing posts were lifted, wire removed, spliced and posts reset.

Personnel

Position	Dates	Name
Superintendent	1/30/65 - present	C. Carpenter
Forestry Res. Tech. WMR	8/19/64 - present	B. Jeffers
Forestry Aid	5/18/72 - 8/25/72	E. Eldenberg
Maintenance Asst.	Intermittent	J. Knoke
Forest Laborer	6/13/72 - 8/25/72	Philip Wilson[1/]
Forest Laborer	6/13/72 - 8/25/72	Peter Redhouse[1/]
Forest Laborer	6/13/72 - 8/25/72	Thomas Gorman[1/]
Forestry Tech.	Intermittent (Winter & Spring Seasons)	Gary Elliot[2/]
Forestry Tech.	"	Richard Kracht[2/]
Civil Eng. Tech.	"	Wayne Thompson[2/]

[1/] Youth employees, furnished by the Bureau of Indian Affairs, Office of Navajo Economic Opportunity in cooperation with I.N.T.

[2/] On loan from Falls Ranger District to assist RWU 1601 with extra work loads through winter and early spring seasons.

Meetings, Group Visits, and Inspections

March 21	Annual cooperative meeting of FSL, Moscow and Falls Ranger District. Invitations were extended to interested personnel from the SO, Representatives attending from Sandpoint were; D. V. Johnson, J. W. Conibear, J. D. Pierce and D. M. Lee. Falls Rnager District; L. A. Swanger, L. A. White, W. M. Huff and C. E. Perin. Forestry Sciences Laboratory; G. H. Deistschman, R. Boyd, M. Foiles and F. Olness. P.R.E.F.; C. Carpenter and B. Jeffers.
May 2	Kaniksu National Forest, Idaho Department of Public Lands and Falls Ranger District Planning meeting for Elementary School Conservation Tour.
May 20	W.S.U. field ecology class (23 members)
May 23	Forest Conservation Tour, sponsored by U.S. Forest Service and Idaho Department of Public Lands.
May 23	Dendrology class from Spokane Community College.
May 31	Falls Ranger District utilized Administration Building, Habitat Study Group.
July 13	Managerial Review Team with representation from the Regional Office, Supervisors Office Kaniksu National Forest, Falls Ranger District and INT, Forestry Sciences Laboratory, Moscow, Idaho
July 17	Visitation and Show Tour forester Fan Yu Chin, from Taiwan, R.O.C.
Oct. 11-12	University of Idaho, Watershed Management Inspection and Field Tour of Model Watershed, P.R.E.F.
Oct. 18-19	Facility Survey and Inspection by personnel from Ogden, Moscow and P.R.E.F.

Research Cooperators

Dates	Individuals	Purpose
Jan-March	Gordon Snyder Graduate Student, U of I	Supervise Water Quality Studies in cooperation with RWU 1601
June 27-30	James Weber, Nancy(Smith) Weber Ann Arbor, Michigan	Collect fungi for Dr. Alexander Smith
Sept.8-Oct 10	Drs. Alexander & Helen Smith Ann Arbor, Michigan	Collection and study of higher fungi.
Sept.8-Oct 6	Ed Tylutki, U of I Moscow, Idaho	Collection and study of higher fungi.
Sept. 15	Emil Zavorsky Ridgefield, N.J.	Photographer, Assistant to Dr. A. Smith
Sept. 26	Kent M. Knight Beltsville, Md.	Collection and study of higher fungi.
Sept. 29-Oct 29	Richard Kline, Grad. Student, W.S.U. Intermittent	Soil moisture studies in cooperation with RWU 1601

Cooperation

Kaniksu National Forest, and Falls Ranger District personnel provided assistance and technical advice in the administrative operation of the Experimental Forest. The station facilities were used on several occasions for planning meetings, educational demonstrations, training sessions, and varied tours. The annual meeting between the Falls Ranger District and Forestry Sciences Laboratory, Moscow was held at P.R.E.F. on March 21, 1972 with representation from the Supervisors Office in Sandpoint. General topics of discussion were: timber sales, roads, KV funds, stage two examinations and the Memorandum of Understanding.

Figure 3. 1972 Information Map, P.R.E.F.